



Technical Memorandum Soil Excavation Optimization



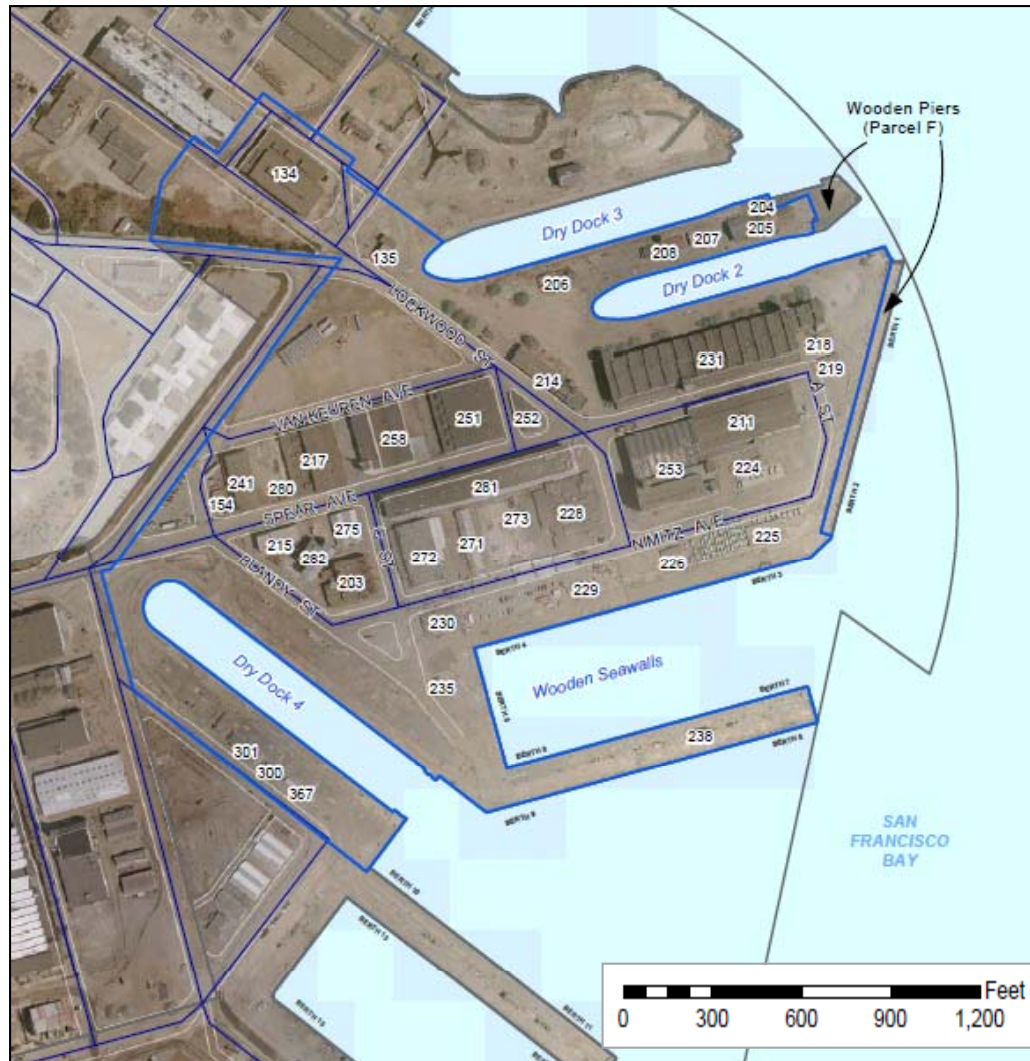
Parcel C Remedial Action Remedial Units C1, C2, C4 and C5 Hunters Point Naval Shipyard San Francisco, California

Lora Battaglia
Project Manager
Support Contractor to NAVFAC BRAC PMO
BRAC Program Management Office West

BCT Meeting, February 28, 2013



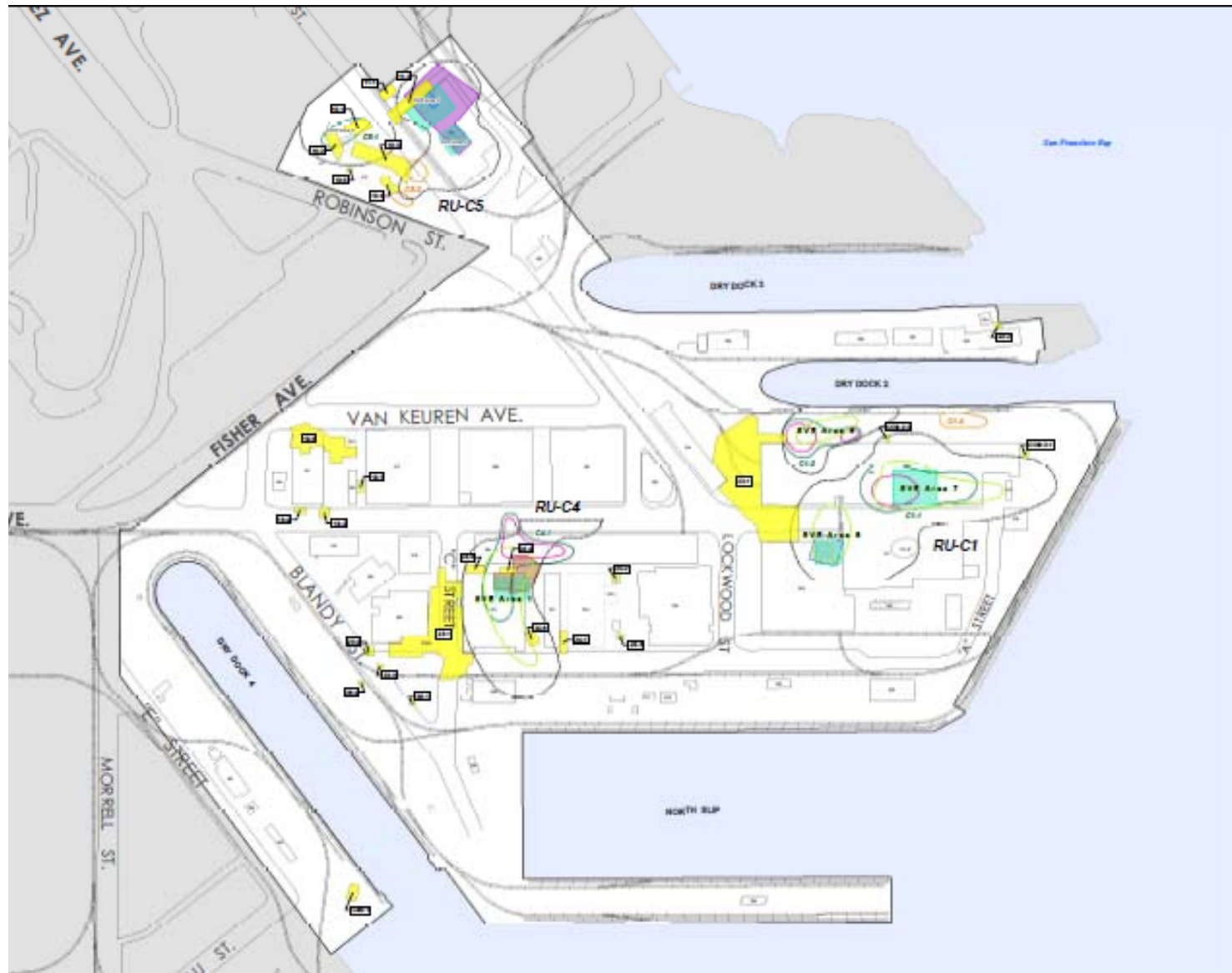
Parcel C Map



- Parcel C Boundary
- 231 Building Number



RUC-1, 4, 5 Remedial Activities





Soil Excavation Tech Memo - Background -



- Triad meeting December 4, 2012 (Oakland, CA)
- Tech Memo requested by BCT to memorialize Triad discussion and decisions
- Tech Memo documents the optimized soil excavation approach to address soil exceeding remediation goals (RGs). The optimized approach reduces excavation areas that do not pose unacceptable risks after the selected Parcel C remedy is installed
- Original soil excavation boundaries identified in the Final Feasibility Study (2008 update), Record of Decision (ROD) (2010), and Final Remedial Design (2013 update)
- Residential RGs (RRGs) were presented for chemicals of concern (COCs) in the ROD, along with a shorter list of construction worker RGs (CWRGs)
- Essentially all but two small excavations (22-2 and CMI-1) fall within areas where RRGs apply

INTERNAL DRAFT
TECHNICAL MEMORANDUM
*Soil Excavation Optimization
Parcel C Remedial Action
Remedial Units C1, C2, C4, and C5
Hunters Point Naval Shipyard
San Francisco, California*

Contract Number: N62473-10-D-0807
Contract Task Order: 0008

Document Control Number: SHAW-0807-0008-0195

February 2013

Submitted to:



Base Realignment and Closure
Program Management Office West Naval Facilities Engineering Command
1455 Frazee Road, Suite 900
San Diego, California 92108

Submitted by:



4005 Port Chicago Highway, Suite 200
Concord, California 94520-1120



Tech Memo Addresses:



- Technical rationale for proposed changes to each excavation area. Rationale is supported by excavation footprint figures identifying previous excavations, future excavations, RRG exceedances and respective sample depths
- General soil excavation approach; 5 feet laterally and 1 foot bgs vertically beyond sample location exceeding RGs
- Identification of excavation candidates for coordination between contractors and separate removal actions to avoid duplicate soil removals
- Exit strategy for naturally occurring / ubiquitous metals through conducting residual risk calculations by estimating area-wide exposure point concentrations (EPCs) based on the 95 percent upper confidence limit (UCL) on the mean using HPALs, confirmation sample results, and any historic sample results. Use of EPA' ProUCL statistical software is proposed



Risk Approach



- Risk approach for reducing excavations by applying CWRGs and construction worker risk based concentrations (CWRBCs)
- The ROD presented 12 chemical-specific CWRGs; however, 31 are needed to encompass all COCs in the excavations to be optimized by application of CWRGs / CWRBCs
- The additional 19 CWRBCs were calculated as follows:
 - 1) EPAs online calculator;
 - 2) Same factors as presented in the Final FS; and
 - 3) Currently available chemical toxicity values
- Effected excavations are as follows:
 - RU-C1: 22-2
 - RU-C4: 23-1; 24-4, 24-5
 - RU-C5; 10-3; 10-4; 11-2



Optimizing using CWRG



- **Excavation 22-2: No further action** due to proximity to historical building. In addition, remaining concentrations are below 2x RRG.
- **Excavation 23-1: Reduce footprint** by applying 10x RRGs . Sample locations exceeding 10x RRGs within the original excavation footprint were then identified for excavation by applying a revised excavation footprint surrounding the 10x RRG exceedances by a minimum of 5 feet laterally.
- **Excavation 24-4: Reduce Footprint** to extend 5 feet RRG exceedances. Alternatively, apply construction worker scenario and ensure soil gas is not a risk.
- **Excavation 24-5: Reduce depth** to 7 feet bgs (1' greater than RRG exceedances). Alternatively, remove VOCs above RRG, then all other areas are below CWRG.
- **Excavation 10-3 and 10-4: Reduce Footprint** due to prior excavations. Alternatively, apply CWRG and only TPH remains.
- **Excavation 11-2: Reduce Footprint** due to prior excavations. Potentially apply CWRG for confirmation sampling.



Soil Excavation Tech Memo - Summary (continued)



Current Proposal:

- Apply RRGs, where appropriate using 2x and 10x RRG
- For metals, use risk calculations to estimate EPCs, based on the 95% UCL

For Additional Consideration:

- Apply RRGs to VOCs and CWRG to metals
- Apply RRGs to footprint (as current) then use CWRG for confirmation
- Apply CWRG to entire footprint at all excavations
- By optimizing the excavations based on historical sample data and applying CWRG scenarios to several RA excavations, the estimated volume of soil that will require removal was **reduced by approximately 14,700 bank cubic yards (38 percent)** for RUs C1, C4, and C5, not including potential over-excavation requirements to meet RGs.



RUC-1, 4, 5 Schedule Update



- Draft Tech Memo to be issued for review 3/8/13
 - Working meeting 3/14
- Final Tech Memo to be issued 3/28
- Final Work Plan to be issued (4/28/13)
- Field work to begin (late April/early May 2013)
 - Based on radiological work completed, excavations will begin in area RU-C5



Parcel C: Schedule



- RUC-2
 - RTCs to BCT: 2/6/13
 - Final WP submittal : 3/8/13
 - Well Installation: 3/11/13
 - Excavation: 4/8/2013
- RUC-1,4,5
 - Draft WP: 11/16/12
 - RTCs pending Tech Memo
 - Final WP submittal: 4/28/13
- Tech Memo
 - Draft to BCT: 3/8
 - Final submittal: 3/28
- Field Work-April 2013
 - Dependent on completion of rad work





Questions

